2015 Water Quality Focus Groups

Researching Public Opinions on Water Quality Issues in Colorado

CORONA INSIGHTS

Colorado Watershed Assembly
www.coloradowater.org

Contents

Executive Summary

Overview and Research Goals

Corona Insights conducted 14 focus groups in September of 2015 with Colorado residents in five regions of the state of Colorado to inform statewide water planning and future outreach efforts. This focus group research is a follow-up to previous focus group research conducted in 2008, as well as survey research in 2007 and 2014. The 2014 survey is briefly recapped on the following page.

This research was conducted to understand current perceptions, opinions, and beliefs about water quality, including:

- Awareness of water sources
- Awareness of factors affecting water quality
- Actions taken to improve water quality and willingness to take action
- Barriers to improving water quality
- Best messaging and communication
- How opinions about water quality have changed over time

2014 Survey Recap

- The survey was designed to measure changes since 2007 as well as to collect additional information.
- The survey collected more than 1,900 responses (nearly 400 per region) via cell and landline telephone surveys.
- High-level findings included:
  - Water quality was the most important environmental issue tested; this had increased since 2007
  - Public health was the greatest motivator to improving water quality
  - The vast majority of residents took some personal action to preserve water quality, though water quality itself wasn't the motivator for most; for those that were not taking action, it was not a result of ill intent.
- The focus groups that followed were designed to further explore some of these above findings, as well as other findings, to both provide a deeper understanding of the survey results and to inform future efforts.

For full findings, please refer to the earlier report.

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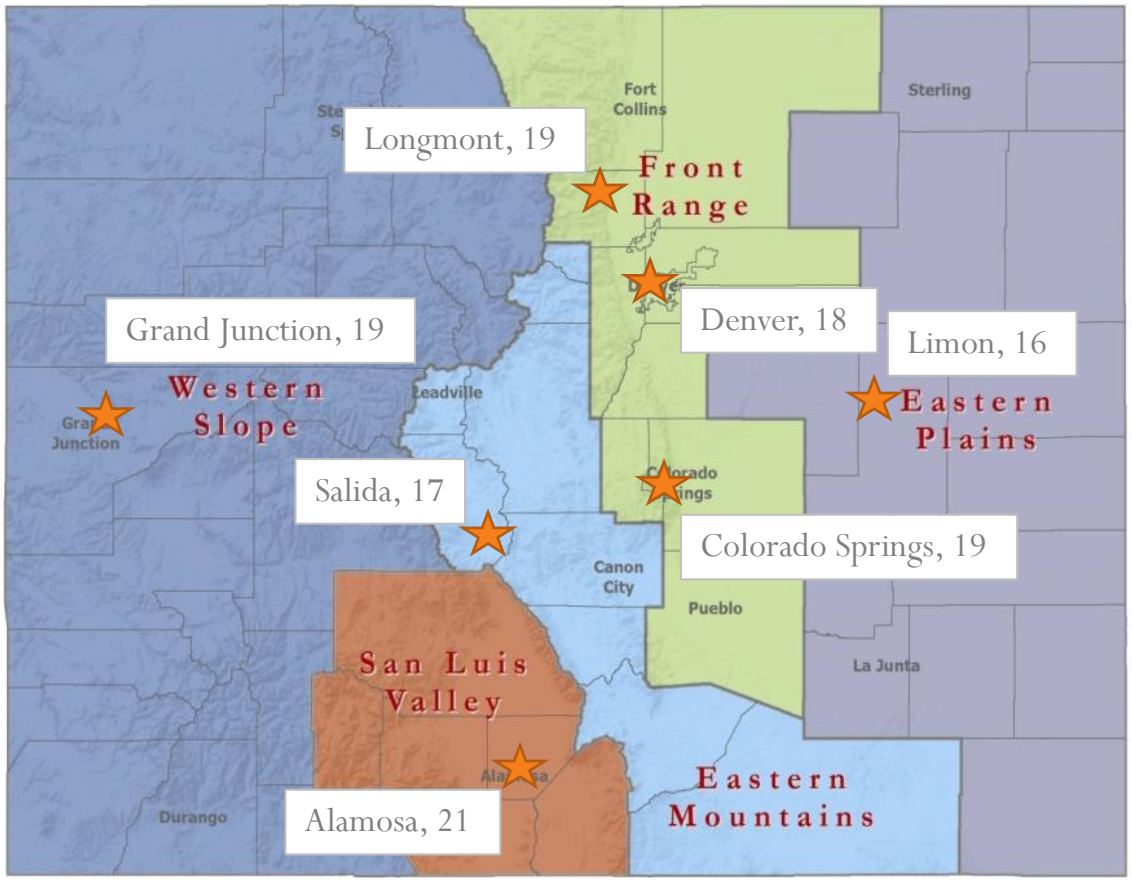
Focus Group Locations and Attendance

A total of 129 Colorado residents participated in the focus groups. Location (★) and participation are shown at right.

These regions are the used for the survey research.

Additional information can be found in the appendix.



** Each location included two focus groups. Total number shown is for all groups at that location.*

Key Findings: General Awareness

Water quality is not top-of-mind for most residents

- While participants believe that water quality is important, it is not a topic that is constantly on their minds. They are much more likely to be concerned about water quantity than water quality. Participants on the Front Range generally have less awareness of water quality issues than those living in more rural areas.
- Top of mind thinking about water quality is mainly focused around drinking water across all regions. Residents mainly rely on their senses to determine the difference between good and bad water quality rather than by looking at results of water quality tests.

Unless there is a major event that raises awareness temporarily

- Concern about water quality has increased over the past five years, but this increase in concern is generally tied to events (such as flooding, spills, etc.).
- As was seen with findings from the 2008 focus groups, many participants do not think about water quality until some big event occurs.

Key Findings: Sources of Pollution

There are differences between urban and rural residents in their knowledge and beliefs

- Front Range participants know the least specific details about where their water is coming from, while residents in the San Luis Valley and Eastern Mountains can often name the original source of their water.
- Participants on the Front Range are more likely to feel that individual residents have a larger negative impact on water, while residents in other areas of the state are more likely to believe that businesses and agriculture are more negatively impacting water quality.

And general knowledge of pollution sources is also low

- While participants often generally have ideas for how their water is being polluted, they are not always sure at what point their water is being contaminated and how that can directly affect them.

Key Findings: Improving Water Quality

Residents felt water quality was the responsibility of individuals and government

- Most participants agree that a combination of individuals and a government entity should be responsible for preserving and regulating water quality
- However, participants, particularly in more rural areas such as the San Luis Valley and the Eastern Plains, tend to be more wary of "big government" and feel very strongly that water quality regulation should be handled on a local level. Regulation would likely be better received if it is done at a local level rather than a federal or even state level.

But many residents do not know how they can impact water quality

- Many participants are already taking actions that preserve water quality, but most do not realize they are doing so. They are usually taking action for reasons other than water quality.
- Similarly, participants not taking actions to preserve water quality are not doing so with ill intent, they are largely just uninformed and unaware of how their actions may be impacting water quality.
- As was also found in the 2008 focus groups, participants, particularly in the San Luis Valley, have a hard time thinking of ways that individuals can make an impact to help preserve water quality.

Key Findings: Communication & Outreach

Awareness of outreach is low

- There is currently very little awareness of any messaging or communications about water quality issues in any of the regions. The 2008 focus groups also found that lack of knowledge was the greatest barrier to taking action to preserve water quality.
- Essentially, messaging about water quality needs to be widespread and ongoing so that residents will remember the messages that they have seen.

Future messages should focus on personal benefits, as well as broader environmental benefits

- Messaging should focus on the personal level, such their quality of drinking water, so that residents understand how their actions will impact them specifically.
- While participants are most concerned with the quality of drinking water, many participants also love the Colorado outdoors and environment, so messaging focused on preserving this should incorporate water quality as a small piece of preserving the environment in general. As was also found in the 2008 focus groups, participants often lump together actions they take to minimize their impact on the environment with those they take for water quality.
- Participants have a wide range of preferences for how they want to receive communications about water quality, the most popular being inserts in the water bill, social media, radio, TV and billboards.

Recommendations

Above all, more education is needed

- Water quality needs to become more top of mind for residents, as they are currently thinking about water quality mainly when a major event happens. Water quantity is currently more top of mind, so tying water quality to quantity may help increase concern and awareness.
- Educational outreach should be targeted by region of the state, as level of awareness, as well as preferences and needs also vary by region.
- Residents are most likely to consider drinking water when thinking about water quality, so messaging should focus on this. More education is needed about how to determine water quality, besides relying on taste and smell. Improving and simplifying water quality explanations and messaging in water bills may be a good place to start.
- Residents need to know not only how their actions can negatively impact water quality, but what they can do to help improve or protect water quality. Especially in rural areas, there needs to be a focus on how individual actions can make a difference.
- Creating a robust educational outreach campaign for school children is often considered a good place to start, as children are the future generations, and they are likely to have some influence over the actions of their parents.

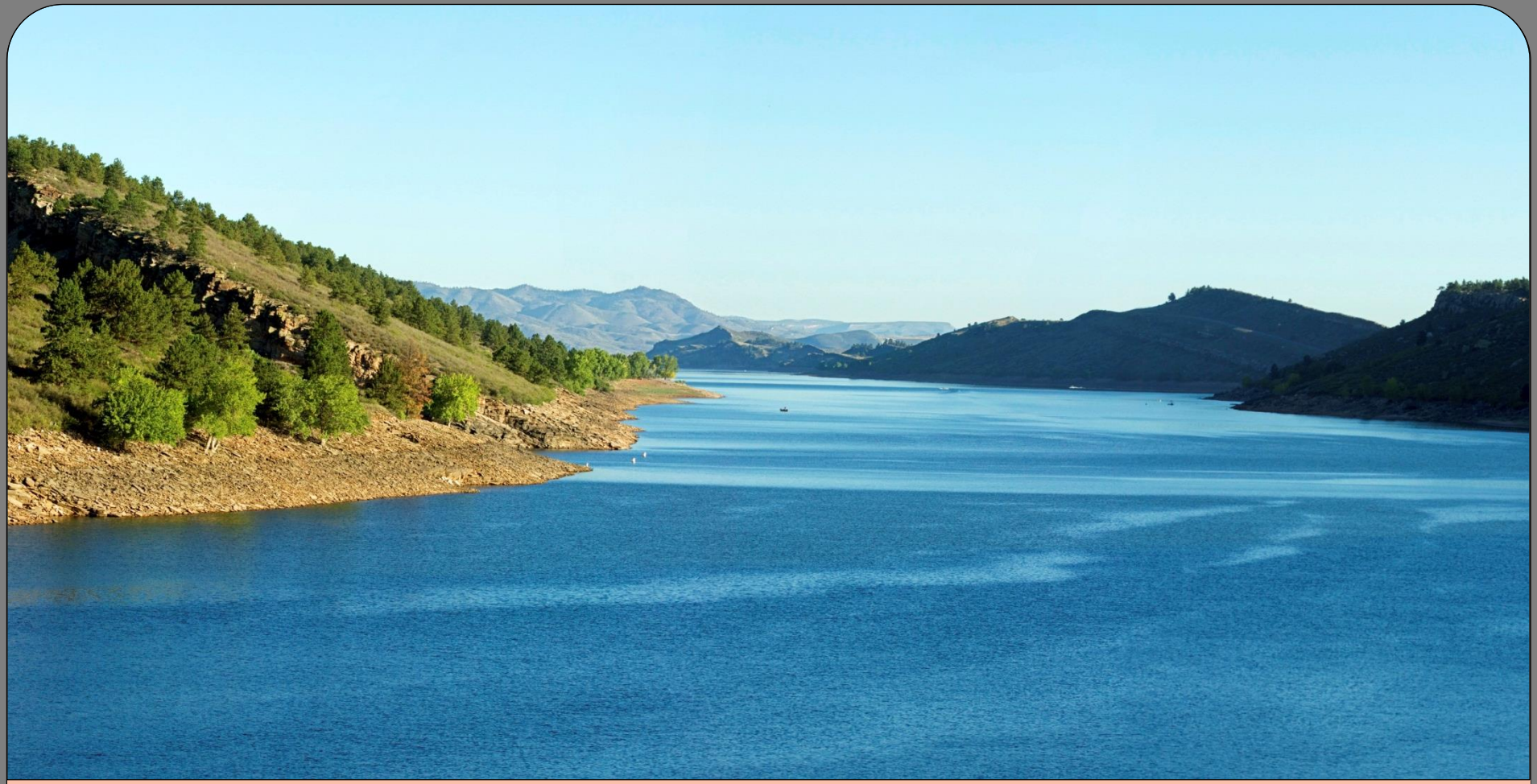
Recommendations

But education alone won't be enough

- While education is necessary to increase awareness of water quality issues, education alone won't be enough to change behaviors. More incentives, in some form, are also needed to encourage residents to take action to improve water quality and penalize those polluting the water.

A next step should be to prioritize specific behaviors to target

- Behaviors that most residents are already participating in, such as auto maintenance (whether or not action is being taken because of water quality), can likely be a lower priority for messaging.
  - Similarly, as most residents are not taking action because of water quality, messaging to take action may be most effective if the focus is not water quality, but other reasons, such as courtesy, risk of fines or financial savings.
  - Future research may be needed to determine which behaviors are most likely to preserve water quality, and explore in-depth barriers to participating in these behaviors.



General Perceptions of Water Quality

Section 1

Environmental Concerns

All across the state, the environmental concern residents are thinking about most is water quantity and conservation

- While the 2014 survey showed that water quality was the most important issue to Colorado residents, throughout all focus groups, when asked about water quality issues, participants would seamlessly transition to talking about water quantity issues.
  - This indicates that while many noted that they believe water quality is important, water quantity is more top of mind than quality for most.
- Water quality is also a concern to many, but thoughts about water quality tend to be related to recent events, such as mining spills or news about water catching on fire due to fracking.
  - The increase in concern about water quality in the 2014 survey was likely a result of increased news about fracking, as well as the flooding in 2013
- Energy development, air quality and fires were also concerns for some.

General Water Quality Concerns

While most participants believed that water quality is important, most did not think about it on a daily basis

- Concerns about water quality were generally related to events, such as the recent mining spill into the Animas River, and recent flooding

> "It's a little one of those, kind of in the back of my mind because we have really good water. But then, the Animas is orange. I don't really think about it until something happens. ***–Front Range Resident***

- Participants living on the Eastern Plains were most concerned about water quality in their households and were least likely to feel safe about drinking water from their faucet

> "[I think about water quality] every day when I have to pull out my water jug to get water. In cooking, we don't even cook with it. I mean, I have a five-year-old, so that's always…you want the best for your children. And even my dogs, I don't let them drink from the faucet. ***-Eastern Plains Resident***

General Water Quality Concerns

When asked about their general concerns about water quality, most participants were thinking exclusively about drinking water

- Most were mainly concerned with the taste of their water, and how the water they were drinking could potentially impact their health
  - Additionally, several participants were concerned about how their drinking water was being treated, and how additives impacted the quality of their water
- On the Front Range, concerns about how fracking and overall pollution may be impacting their water was top of mind, while participants in the Eastern Mountains were more concerned about mining, and participants on the Eastern Plains and the San Luis Valley were more concerned about agriculture

> "There are times that our water, I'm on city water, and it is just overly chlorinated. It tastes horrible and it's that bad and you can just smell it. When that happens, I get more concerned and worried about it.
>
> ***–Eastern Mountains Resident***

Good Vs. Bad Water Quality

Most participants noted that they used taste, smell and visual appearance to distinguish between good and bad water quality

- However, a few participants acknowledged that taste and smell may not be the best way to truly determine water quality

> "Well, I think the really only true way to know is to test it. That's about the only way you can really find out if you've got quality water. Sometimes water can look and smell good, maybe even taste good, but it could probably kill you.
>
> ***–Eastern Plains Resident***

- Some participants had previously had their water tested, or remembered getting water quality reports with their water bill, however, many did not fully understand what these reports meant

> "We get a monthly newsletter for our water board and all that. They'll say the water's being tested. Okay, what does it mean when it has solids in the water? What does that mean? What is the particulates in the water?
>
> ***–Front Range Resident***

Differences in Water Quality

When discussing the quality of water, many participants compared the quality of water in their area to other areas in the state and throughout the country

- While there were some differing opinions regarding the taste of Colorado's water (and therefore perception of quality), most participants felt that Colorado's water was good in comparison to the rest of the country
  - Many believed this was because they are closer to the source of the water coming from the mountains

> "I know I've lived all over the country, and I think the water here is much better than most places in the country ."
> ***–San Luis Valley Resident***

> "We can see where our water's coming from looking out the window, so that's kind of comforting."
> ***–Eastern Mountains Resident***

- In more rural areas in the San Luis Valley, the Eastern Mountains and the Eastern Plains, many participants mentioned a noticeable variation in the water quality between the small towns, even within the same general area

> "You can go to Westminster, Lakewood, Denver and all that water stays pretty good, about the same flavor. Out here, I could go to Hugo, you could go to Seibert, and it's all different."
> ***–Eastern Plains Resident***

Changes in Concern Over Time

Many participants are thinking more about water quality now than 5 years ago

- Recent news and events were often the cause for this increase in concern
  - For example, Front Range residents, particularly in the northern Front Range, were concerned about the effects of recent flooding
  - For all regions, recent news about the mining spill into the Animas River caused concern
  - Hot topic issues, such as fracking and adding fluoride to water was also a cause for increase in concern for many

> I've been a little concerned because I remember not too long ago they started talking about putting fluoride in the city water and stuff like that. I know it keeps teeth from decaying and stuff. Then I heard on the news broadcast recently that they're finding out it might cause more problems in adults.
> ***-Western Slope Resident***

> When that flood came through a couple of years ago, I mean, it almost got my house, and I'm in a pretty safe area. And there was all this stuff coming down the canyon, which isn't anybody's fault, it's a flood. There was all this stuff, and then the Animas gets dumped in and it's just…it's definitely more on my radar than it has been previously.
> ***-Front Range Resident***

Sources of Water & Factors Affecting Water Quality

Section 2

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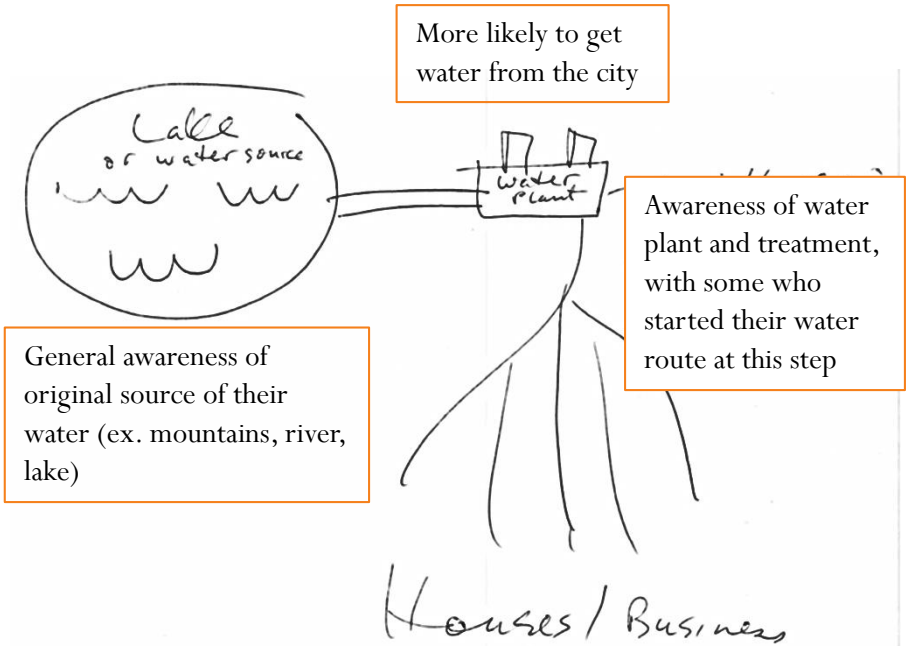
Route of Water

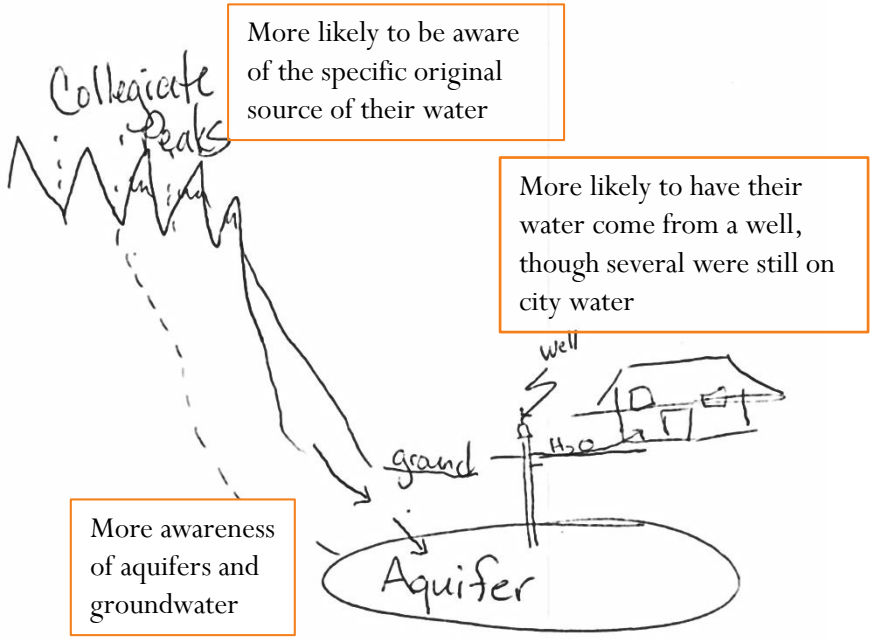
Participants were asked to write or draw the route that water takes from its original source to their faucet. As was discovered in the 2014 survey, there were several significant differences in what they believed to be their water route between participants living in more urban areas (Front Range, Western Slope) and participants living in more rural areas (Eastern Mountains, San Luis Valley, Eastern Plains).

Typical Water Route for Urban Participants



Drawn by Front Range Resident

Typical Water Route for Rural Participants



Drawn by Eastern Mountains Resident

Lack of Concern about Water Route

Many participants had a difficult time identifying specific locations along their water route that may impact the quality of their water

- Many participants indicated concern for runoff and pollution generally, but were not aware of the exact point that this would affect their water
  - Many believed that farming runoff could negatively impact water quality, particularly in more rural areas. In these areas, participants were also concerned about how groundwater may be impacted.

> "There's a lot of farming out there where I'm at, and I don't know what they're putting on those crops. I do know I see crop dusters floating around […] and yeah, that concerns me. ***–San Luis Valley Resident***

  - In more urban areas, participants were also concerned with how individuals were polluting the water

> "I worry about all the stuff that we dump into our water. The fertilizer runoff, the outdated medications people flush down their toilet, all that kind of stuff.***–Front Range Resident***

- There was a general understanding among most participants that pollution would impact those downstream
  - Many participants were particularly concerned with how mining waste could negatively impact the water of those downstream, likely as a result of the recent Animas River spill

Concerns about Water Route

Participants who were able to pinpoint a particular step in their water route that they were concerned about, were most commonly concerned about the water treatment step

- Some participants were concerned about how the water treatment step may be impacting their water quality, particularly in the Front Range
  - Participants were concerned about what chemicals were being added, and how this may affect their health

> "I wish I had more access to the knowledge of what exactly was in our water, what additives were being added to our water, like fluoride or other things, chlorine. I wish I could just have the resources to access this is how much is in there, and the knowledge to be like, "Okay, this is what that means"
>
> ***–Front Range Resident***

- Several other participants were not as concerned with the water treatment plant, but rather, how their water could be contaminated between the treatment plant and their house

> "I'm concerned about once it leaves our facility. The pipes it goes through, how clean are those? How well maintained? What can enter the water supply once it's filtered and goes into the pipes before it gets to me.
>
> ***–Western Slope Resident***

Exercise: Negative Impacts on Water Quality

Participants were given a list of factors that may negatively impact water quality and were asked to rank the top three factors that most impact water quality in their household. Results of this exercise are displayed by region below.

	Overall Group Ranking of Likeliness to Negatively Impact Water Quality					
Factors Negatively Impacting Water Quality	Overall	Front Range	Western Slope	Eastern Mountains	San Luis Valley	Eastern Plains
Fertilizers and pesticides from agriculture	1	2	1	1	1	1
Oil, grease and other chemicals from urban runoff	2	1	2	3	5	3
Not maintaining septic systems	3	4	3	4	2	6
Energy development (e.g. oil and gas)	4	3	4	7	9	2
Mining	5	6	5	2	3	8
Waste from livestock	6	7	7	5	4	4
Fertilizers and pesticides from home use	7	5	8	6	8	5
Erosion/uncovered soil	8	8	6	9	6	7
Waste from household animals/pets	9	9	9	8	7	9

Fertilizers and Pesticides from Agriculture

In all regions of the state, except the Front Range, participants believed that fertilizers and pesticides from agriculture were most likely to negatively impact water quality

- This was largely due to the amount of agriculture outside the Front Range

> With all the ranches and stuff around and the pesticides and everything they do use. With as much rain as we've had this year, all the runoff, everything just flows into the water
>
> ***–Eastern Mountains Resident***

- While many participants believed that the fertilizers and pesticides from agriculture were impacting their water quality, several participants also believed that farmers acted responsibly with their fertilizer and pesticide application
  - Particularly in the San Luis Valley, participants tended to be protective of farmers, likely because of the large farming community in that area

> I think right now, most of the farmers and ranchers around here are a lot more educated than they used to be, and economically, they don't want to over-fertilize.
>
> ***–San Luis Valley Resident***

Urban Runoff

In the Front Range, participants were most likely to believe that urban runoff had the most negative impact on their water quality

- This is not surprising, given that the Front Range is more heavily populated than other areas
  - Urban runoff was also ranked in the top three for most other areas, and the level of concern generally reflected the population density in these areas
- Many participants also noted that a lack of regulation made urban runoff more of a concern for them than agriculture, as the amount of fertilizer and pesticide farmers are allowed to apply is more heavily regulated than pollutants from home use.
- Several participants also noted that lack of awareness heavily contributed to urban runoff because many individuals are not aware that their actions may be negatively impacting the water quality

> "I think that for me it's because we're in an urban area, and there are a lot of people that are not really thinking about their environment when they are dripping cars or changing oil or whatever. We don't think about that as much as other things.
>
> ***–Front Range Resident***

Not Maintaining Septic Systems

Concern about septic systems impacting water quality varied slightly by region

- This was a major concern in areas where most participants had a septic system, such as in the San Luis Valley
  - In areas where participants were less likely to have septic systems, such as the Front Range, this was less of a concern
- Those who had septic systems were more likely to feel that not maintaining them was more likely to negatively impact their water quality
  - For many, this was because the septic systems were close to their wells and therefore more like likely to directly impact their water

> There's a lot of old septic tanks that were just cisterns - metal tanks - which people just filled up and covered up, and then put another one somewhere else. Now, we have a septic tank on our property. Last year, we had it taken out and put another one in because it was too close to the well. That concerned me. It was 50 feet from the well, so we moved it. But I can't say that I think everybody else is that concerned about it.
>
> ***–San Luis Valley Resident***

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Energy Development

Concern about energy development impacting water quality varied significantly by region

- Energy development was ranked high as negatively impacting water quality in the Front Range, Western Slope and Eastern Plains, but not in the San Luis Valley or Eastern Mountains
  - Proximity to areas with energy development, as well as exposure to messaging about fracking and fear due to lack of complete knowledge likely contributed to this

> "The whole fracking issue could affect the aquifer and the entire front range. Chemicals in fracking, which they won't tell you what the are, but certainly there's been a lot of evidence that they have a lot of messed up water in other places. There's only a matter of time if they continue up here."
>
> *–Front Range Resident*

Mining

Concern about mining impacting water quality also varied significantly by region

- In areas with a lot of mining, such as the Eastern Mountains, participants were more worried about it impacting their water quality than areas without mining, such as the Eastern Plains
  - The recent mining spill into the Animas River likely made residents in areas with mining more concerned about its impacts

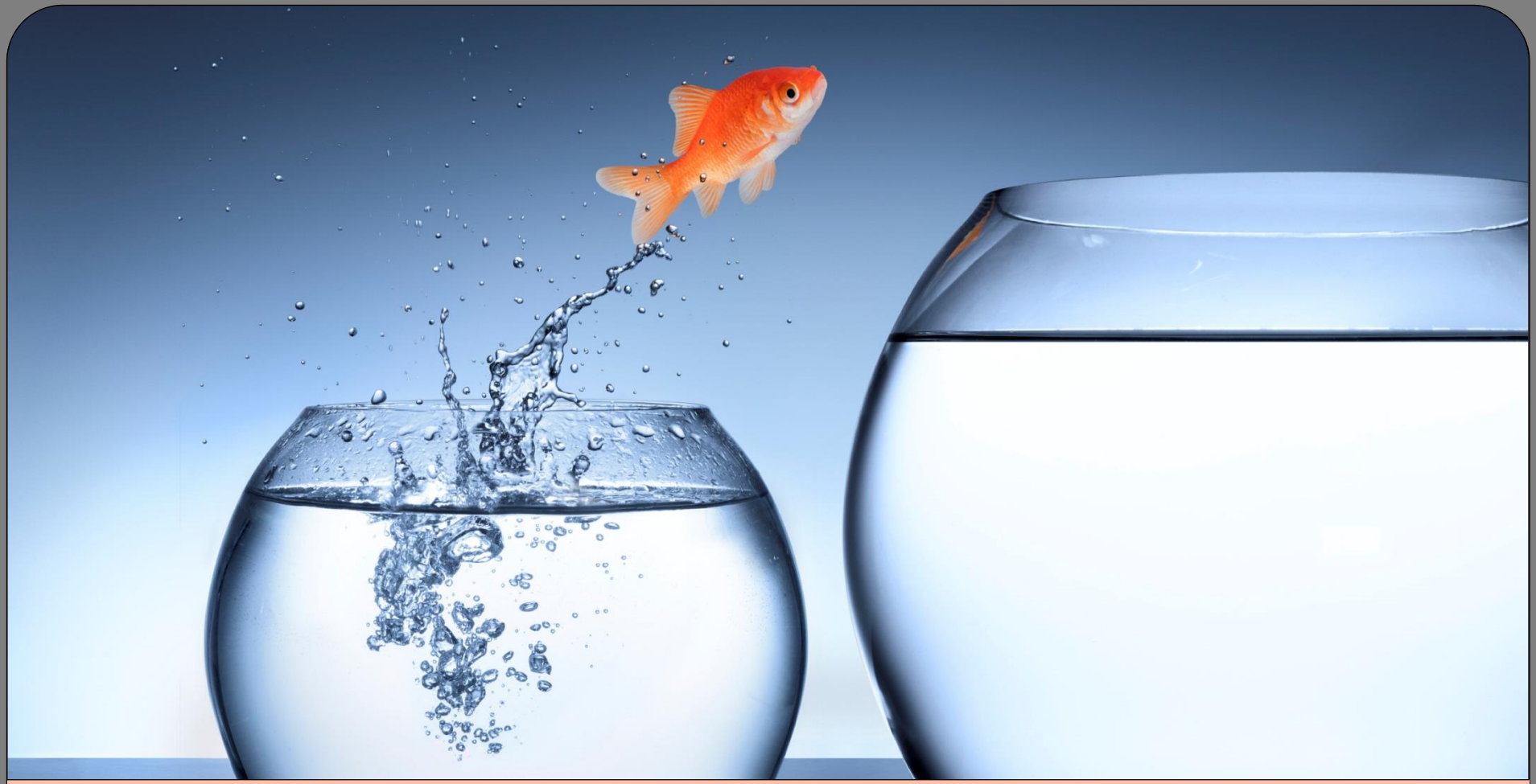
> "The mining disaster with the Animas just really opened my eyes to what it looks like. I've always known that that could happen. So, at the back of my mind, I was like, "Hope that doesn't happen." Then it happened over there, and I'm thinking, "Oh, that's what could happen here." So, that's number one.
>
> ***–Eastern Mountains Resident***

Individual Sources of Pollution

When asked how individuals can negatively impact water quality, participants were able to come up with many ways, but most were not thinking about this regularly

- Using fertilizers or pesticides on lawns, dumping household chemicals or medication, leaking oil, and dumping trash were most commonly mentioned as ways that individuals could impact water quality
- However, many participants mentioned that they were generally not even thinking about water quality if and when they did these things, and believed the same of other residents
  - They felt that there was generally a lack of awareness among about how individual actions could impact water quality, so many residents did not think about it

> "It really comes down to ignorance. People who aren't aware how much damage it can do. Not maintaining your septic system, to dump your oil, to not clean up after your pets. It's not necessarily ignorance is bliss, but maybe they just don't know.
>
> ***–Eastern Plains Resident***



Actions and Barriers to Improving Water Quality

Section 3

Who is Responsible for Water Quality?

Most participants felt that a combination of individuals and government entities should be responsible for preserving water quality

- Most believed that individuals needed to do more to take action, but that there needed to be some agency overseeing regulation and education.
  - Most participants agreed that this would likely need to be some government agency.

> "The government will set the standards, but each individual has to abide by those standards the government sets. ***–Western Slope Resident***

- Many believed that in order for individuals to take more action, they would need to be educated on what kind of action to take

> "I think it's up to the government or the powers that be to make sure the public is better educated about what they need to do to make sure the water is safe. And I think people need to be more aware than they have been.
>
> ***–Front Range Resident***

Government Role in Water Quality

Participants generally agreed that local government would be the best agency for regulating water quality

- This was particularly true in more rural areas, such as the San Luis Valley and the Eastern Plains
  - In these areas, participants felt very strongly that regulations that may make sense in areas such as the Front Range may not make sense for them
  - They also felt that regulations from local government would be better received by residents
- There was a great deal of distrust for the EPA and federal agencies, largely because of the recent mining spill into the Animas River

> "What works someplace else doesn't always work for everybody. So local makes the most sense because they know what works here and what our systems are like.
>
> "And you get more accountability for everyone involved the closer you are. The regulators are held accountable more easily locally and those people who are being regulated are more easily accountable locally.
>
> ***-San Luis Valley Residents***

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Individual Actions to Preserve Water Quality

When asked what individuals were doing to preserve or improve water quality, participants had a hard time thinking of individual actions without being prompted

- Many participants mentioned actions being taken to preserve water quantity, such as watering less, but were unable to shift their focus to water quality
- Several participants also discussed ways they were helping the water quality in their own households, or masking the overall water quality issues, by installing filters or reverse osmosis systems
- After some thinking, some participants were able to come up with a few ways that individuals were helping preserve water quality, such as not dumping chemicals, recycling or limiting fertilizer
  - However, many thought about these actions as helping the environment generally, and not specifically for water quality
  - Once again, participants felt that there was a lack of awareness for how to help preserve water quality

> "I think education's a big part of the quality aspect of it. Because for so many years it's been ingrained on conserving water and using it properly. But we haven't really been educated as a society on how to take care of our water so that we're not contaminating it for downriver."
>
> ***–Western Slope Resident***

Exercise: Individual Actions

Participants were given a list of actions that individuals could take to help preserve water quality and asked to mark the top three items that they believed would be most likely to preserve water quality, as well as mark actions that they were currently taking. Results of this exercise are displayed below as percent of total participants who marked each item.

Actions	Percent Most Likely to Preserve Water Quality	Percent Currently Take Action
Change the way pesticides are used in your home lawn or garden	55%	60%
Vote for legislation to improve/preserve water quality	55%	41%
Change the way fertilizers are used in your home lawn or garden	42%	53%
Perform maintenance to prevent leaking automotive fluids	34%	84%
Service your septic tank regularly	29%	40%
Volunteer or serve on the board of a nonprofit supporting water quality	29%	11%
Use a commercial car wash	16%	61%
Pick up dog waste	12%	59%
Remove yard waste	6%	60%
Cover exposed soil around the outside of your home to reduce erosion	5%	42%

Exercise: Individual Actions by Region

Results of the individual actions exercise broken down by region is displayed below

	Front Range		Western Slope		Eastern Mountains		San Luis Valley		Eastern Plains	
Actions	**Preserve Quality**	**Take Action**	**Preserve Quality**	**Take Action**	**Preserve Quality**	**Take Action**	**Preserve Quality**	**Take Action**	**Preserve Quality**	**Take Action**
Change the way pesticides are used in your home lawn or garden	55%	64%	**68%**	53%	**65%**	59%	19%	52%	**75%**	63%
Vote for legislation to improve/preserve water quality	**66%**	46%	63%	42%	59%	53%	33%	24%	31%	31%
Change the way fertilizers are used in your home lawn or garden	27%	57%	42%	47%	59%	35%	43%	52%	75%	63%
Perform maintenance to prevent leaking automotive fluids	39%	**84%**	32%	**89%**	18%	**82%**	29%	**76%**	44%	**88%**
Service your septic tank regularly	20%	29%	26%	32%	35%	53%	**48%**	52%	31%	56%
Volunteer or serve on the board of a nonprofit supporting water quality	30%	**4%**	32%	**16%**	29%	**24%**	24%	**14%**	25%	**13%**
Use a commercial car wash	21%	77%	5%	58%	12%	59%	**10%**	33%	19%	50%
Pick up dog waste	20%	64%	**0%**	63%	**0%**	71%	14%	43%	13%	44%
Remove yard waste	5%	55%	11%	79%	**0%**	59%	14%	57%	**0%**	56%
Cover exposed soil around the outside of your home to reduce erosion	**4%**	45%	**0%**	32%	12%	47%	**10%**	33%	6%	50%

Individual Actions by Region

Perceptions about which actions had the most positive impact on water quality varied by region, while actions being taken were fairly consistent by region

- Participants in the Front Range were most likely to believe that voting for legislation would preserve water quality
  - Participants in the more rural areas were generally more wary of government involvement, so were less likely to believe that voting for legislation would have as much of an impact
- In all other regions, except for the San Luis Valley, participants believed that changing the way pesticides were used were most likely to preserve water quality
  - This is not surprising, as participants in this area were also very aware and concerned about chemicals used for farming
- Similarly, participants in the San Luis Valley who believed that not maintaining septic systems would have the most negative impact on their water quality believed that servicing septic tanks was most likely to preserve water quality
- Across all regions, the action taken by most participants was performing maintenance to prevent leaking automotive fluids

Likelihood to Preserve Water Quality vs. Actions

In many instances, the actions that participants believed were most likely to preserve water quality did not match up with actions that they were currently taking

- This disparity was most pronounced with voting for legislation, as well as serving on a board or nonprofit
  - While many participants believed that these actions would preserve water quality, very few were taking action
    - In fact, the results from this exercise likely do not accurately reflect how many of these participants are taking these two actions currently, as after they were asked more in-depth about these actions, many participants mentioned that they did not in fact take action currently, but would if the opportunity presented itself
- Conversely, many of the actions that participants were taking were not believed to have much impact on preserving water quality
  - The most evident examples of this were performing maintenance to prevent leaking automotive fluids, picking up dog waste, removing yard waste, and covering exposed soil

Reasons for Taking Action

While many participants indicated that they were taking many of the actions listed on the exercise, very few of them were taking action because of water quality specifically

- The following reasons were the most common reasons that participants were taking action:
  - Health of themselves or their family/pets
  - Helping the environment and generally thinking it was the right thing to do
  - Saving money
  - Common courtesy/common sense
  - Habit
- Findings from the 2014 survey also supported that public and pet health were top motivators for taking action

> "It's being responsible is most of them. As far as the performing maintenance without leaking on automotive fluids, it helps the environment, but there's also definite…cause you're just taking care of your problems before it makes a huge mess. […] Commercial car wash, it's a lot easier to clean up. My dog waste, I'd like to be in my backyard without stepping into the waste. I think a lot of these things most of the time when I'm doing it. What it's doing to the water isn't really coming to mind. It's just kind of being a responsible citizen and just taking care of your problems."–***Front Range Resident***

Reasons for Not Taking Action

Most participants who did not take action were not doing so with ill intent

- Most noted lack of awareness, lack of control (such as living in an apartment), not believing that the action actually impacts water quality, the action not applying to them (if they didn't have a septic tank, for example), cost and time
  - Several participants also mentioned that they just had never thought about how their actions were impacting water quality
  - This is strongly supported by 2014 survey findings as well
- Generally, participants in more rural areas, such as the San Luis Valley and Eastern Plains were less likely to feel that individuals taking these actions in their area would improve water quality
  - They believed that business and agriculture had more impact in their area, and that the actions listed on the exercise would have more impact for residents on the Front Range

> "What does dog waste have to do with water quality? It could be smelly, it may attract flies, but in the grand scheme of it, how does that contaminate your water?
> ***–Eastern Plains Resident***

> "I'm not taking action on what pesticides I use in my yard or fertilizers. I'm not mindful of that. I probably should be, but I just call the people to come and spray for weeds or fertilize. I used to do the organic stuff when my kids were little, but since then I haven't thought of that.
> ***-Western Slope Resident***

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Respondents' Recommendations

When participants were asked what they would recommend if they were responsible for improving water quality, increasing education and awareness was the most common recommendation

- As had been discussed throughout many of the focus groups, participants felt that they had little awareness of how to improve water quality, and how individuals were negatively impacting it
  - Several participants also felt that getting more clear information about the quality of the water in their own household and ways to improve it may prompt some to want to take action
- Many participants recommended creating an educational campaign through schools so that children would start to create a trend of being aware of and responsible for water quality

> "I would introduce a program at the elementary school level so kids would understand what happens when the flush something down the toilet or whatever. Because how could you possible expect them to understand if nobody ever explained it? They could do a whole science curriculum, and by the time they get to be adults, we won't be having this conversation."
>
> ***–Front Range Resident***

Respondents' Recommendations

In addition to creating more awareness of water quality issues, several participants also recommended increasing either incentives for taking action or consequences for not taking action

- Some participants felt that increasing awareness was only part of the equation to improving water quality, and that additional actions needed to be taken
  - Many felt that different people would respond in different ways. Some may be more inclined to take action if they received some sort of incentive, such as free disposal of chemicals or a tax break, while others would need to be fined before starting to take action

> "Somebody's going to need to be regulated. Fines need to be put in place. Alternative methods, like just go here and dispose it somewhere else for free. I just feel like no single approach would get there, so I feel like, all different approaches and the community coming together toward improving it. ***–Western Slope Resident***

Communications

Section 4

Colorado's Water Plan

There was very little awareness among participants of Colorado's Water Plan

- Participants were most aware of the plan in the Eastern Mountains and the San Luis Valley, but this was still just a handful of participants
  - Most who were aware of the plan only had a general belief that it addressed issues surrounding water rights
- While there was very little awareness of the plan, nearly all participants believed it was important for Colorado to have a water plan
  - However, the reasons they thought it was important to have a plan were almost all centered around water quantity and water rights issues, and not water quality

> "If Colorado had a good water plan, we could manage how much water we actually kept in state. It's a little hard to fight drought with a limited water supply, but at least have enough for the population will be served even though we might have to reduce water in the towns. But the water plan is always good…just a disaster plan. ***–Eastern Plains Resident***

Water-Related Communications

Very few participants recalled seeing any messaging or communications about water quality issues

- Many participants, however, had seen a lot of messaging and communications about water quantity

> Even the stuff I saw growing up was more about quantity. I remember growing up and seeing it on Sesame Street. About not wasting water […] But it was all quantity not quality.
>
> ***–San Luis Valley Resident***

- The few participants who had seen messaging or communications about water quality remembered it surrounding either recent events (such as the Animas River spill) or fracking
- A few participants also mentioned that they had received a report about their water quality with their water bill, but many could not interpret what this meant on their own

Memorable Messaging

When asked about messages or advertisements related to environmental issues generally that were memorable, participants tended to mention three communications most often

- **Native American Commercial:** Many participants remembered seeing the commercial about pollution with a Native American crying next to a river (https://www.youtube.com/watch?v=862cXNfxwmE)

> When I was a kid, one of the ads that used to be on TV about polluting water was, you'd see-- it was like a river, and garbage was coming up on the river, and there was an American Indian -- and that was so impactful to me, about picking up your own stinking trash. ***–Western Slope Resident***

- **Smokey the Bear:** Several participants remembered growing up with messaging from Smokey the Bear about preventing forest fires.

> You could get a Smokey the Bear of water quality. Because everyone knows Smokey, it's like, "Don't start wild fires." ***–Front Range Resident***

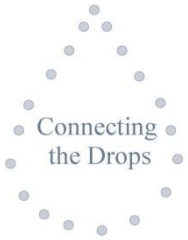
- **Woodsy Owl:** Like Smokey the Bear, many participants remembered the slogan "Give a Hoot, Don't Pollute" from when they were growing up

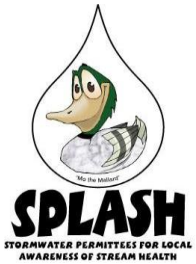
Ad and Message Testing

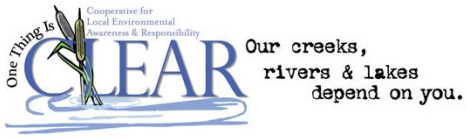
Participants were shown the below logos and messages related to water quality. There was very little awareness of any of these logos and messages, however, those that were most recognized by participants are shown at left. Aside from the three highlighted there was virtually no awareness of the others.

Most recognized

Virtually No Awareness







Water Quality Ad Testing

Many participants considered this logo and message to be the most effective of all they were shown.

"[This] is like, get outside of yourself and think about the other people you're affecting. I think that is more effective for people, if they can realize what they're doing is affecting others."
–Western Slope Resident

Those who had seen this message noted that they had seen it while they were hiking, by a river or in a park

Many liked the simplicity of the message. They liked that it was short and catchy, yet made a clear call to action

Water Quality Ad Testing

While a few participants mentioned that they had seen this logo, they could not pinpoint where they had seen it.

Participants found this logo to be very visually appealing, and many mentioned that it would make a good bumper sticker.

Although participants liked the look of the logo, most felt that it did not have a clear call to action related to water quality. Many thought more about general recreation in Colorado.

"I think it's visually very attractive. I don't think that it would get anybody to change what they're doing. But I think it's beautiful."
-Front Range Resident

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Water Quality Ad Testing

Participants who had seen this message or something similar had seen it near storm drains.

Many felt that the message was a strong call to action, but that a person who was already illegally dumping would probably not be stopped by seeing this.

Participants liked that it specifically stated that dumping would impact them locally, and liked that there was a number to call.

"The only one that has made me ever think was [this one], and it's just what I've seen at our local campus. Just for the fact that the first time I saw it was the first time I even thought about washing my car in my driveway and watching it run down."
–Western Slope Resident

Water Quality Ad Testing

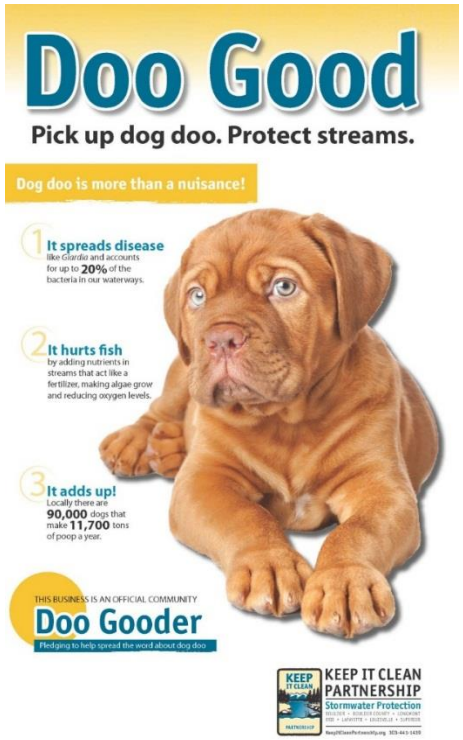
Some participants liked the look of this logo and thought that it was sharp and clean.

"It's very crisp and clean. It's a very modern looking logo with the water splashing out. It's very appealing to the eyes."
-Front Range Resident

However, many participants said that it reminded them of an advertisement for bottled water, and it did not make them think about water quality at all.

Water Quality Ad Testing

Many participants found these ads eye catching, but did not immediately make them think of water quality.



While participants who took the time to read through the ads found the information interesting, most thought that they contained too much text and people wouldn't take the time to read them.

"It's good, but I don't know how many people would read through the whole thing."
–Front Range Resident

Water Quality Ad Testing

Many participants preferred this message without the water droplet, but recognized that children may relate more to a water droplet character than just a message.

"I like [it] because I've worked in the schools and I see how the little children relate to cutesy little things like that."

-Front Range Resident

Most participants did not understand what the dressed up water droplet character was, and many thought he looked more like a blueberry than a water droplet.

Water Quality Ad Testing

Many participants were confused by the acronym and thought that it was much too long.

"But then I'm reading this and going how clear is it? This isn't a public awareness thing. This is a cooperative for local and environmental awareness and responsibility, so this is an organization?"
–San Luis Valley Resident

This logo/message was more well-liked in more agricultural areas than urban areas.

Water Quality Ad Testing

Participants were somewhat mixed on how they felt about this logo. Some liked the "Mo the Mallard" character, while others didn't feel like he did much for the overall message.

Many felt that this logo and character would be most effective if targeted at children.

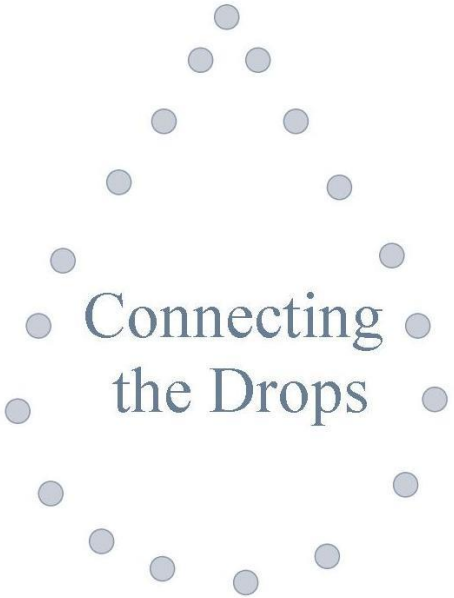
"I think number one is a strong design. As a teacher, I feel like the younger generations are going to associate more with this cute little duck, rather than this giant blueberry man."

–Front Range Resident

Water Quality Ad Testing

Most participants did not understand what message these logos were trying to get across.

"I don't really understand it. I try hard to connect the dots here. And that was fun, wasn't it? There's a connect in the drops we're all connected of-- connecting the drops. They need to tag it back into how the water and the community." ***–Eastern Plains Resident***



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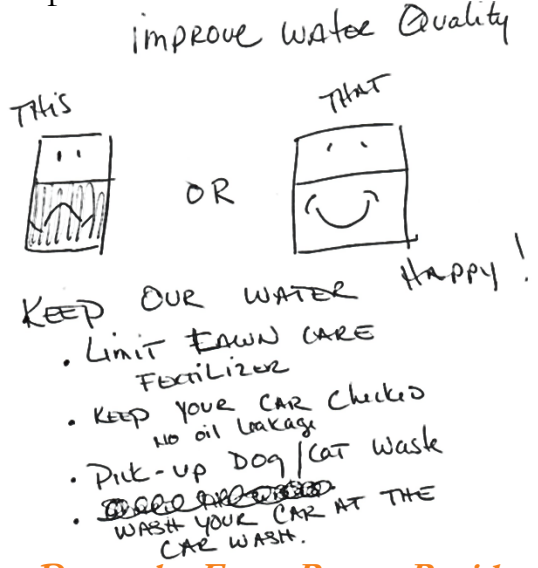
Communication Recommendations

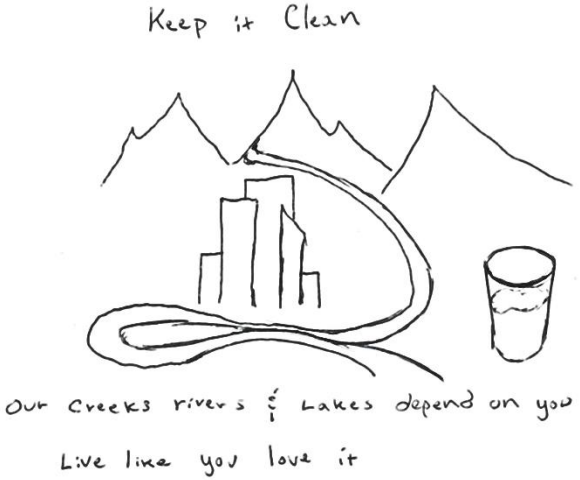
When participants were asked to create their own ad that aimed to encourage residents to take action to help preserve or improve water quality, a few major themes emerged

- Many participants, particularly in the Front Range, created ads that showed direct impacts on how individual pollution was affecting their drinking water.
  - They felt that people need for it to feel personal for them to take action



Drawn by Front Range Resident

- In the more rural areas, many participants created messaging about water belonging to everyone and encouraging residents to protect the water and beautiful environment for future generations



Drawn by Eastern Plains Resident

Communication Recommendations

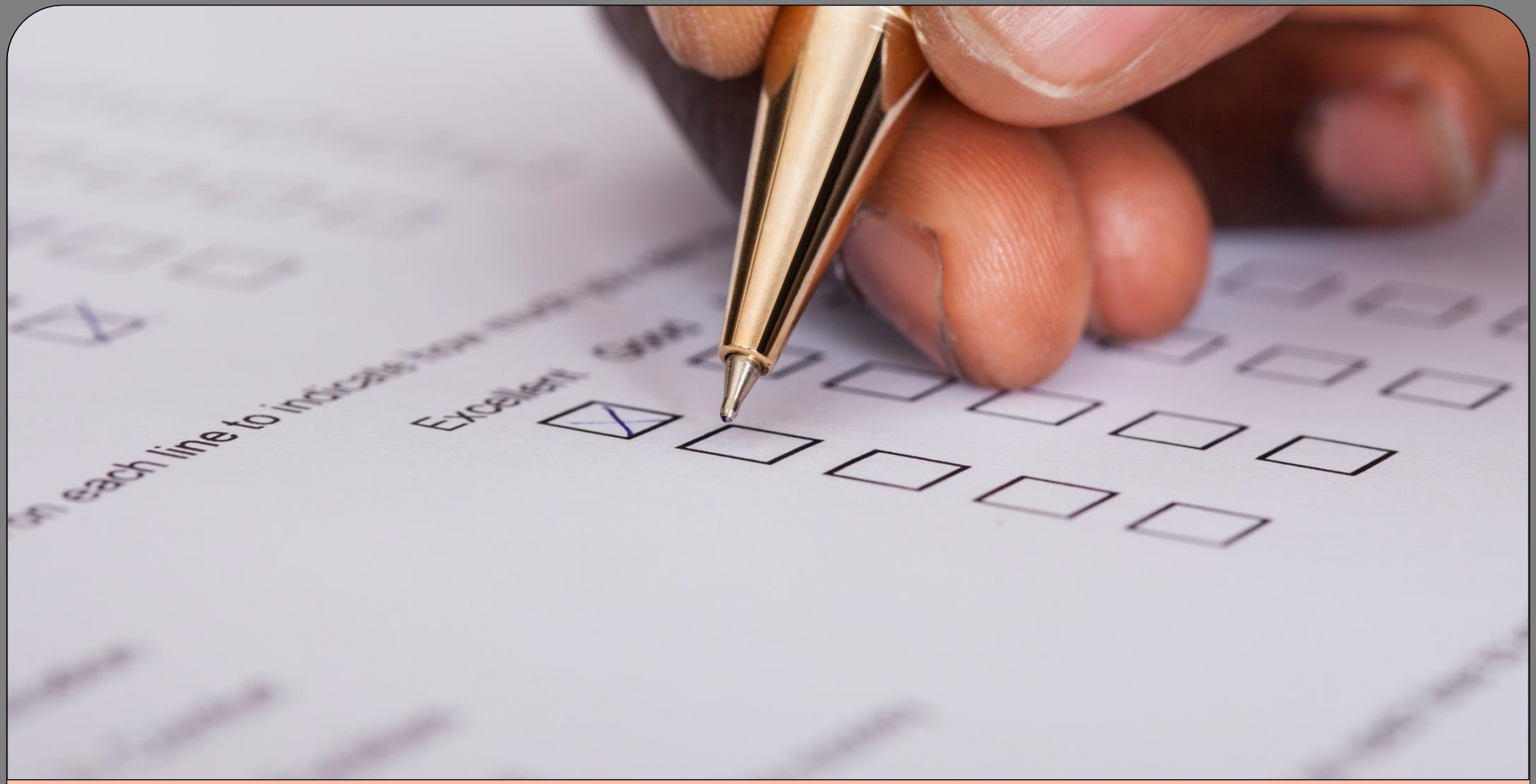
In addition to a few major themes, participants thought that water quality messaging should also include a few key aspects

- Many participants also latched onto the phrase "Keep it Clean", and many thought that it was important to have a catchy, memorable slogan to go along with a campaign to make it stand out
- Several participants also believed it was important for water quality messaging to include simple action items that residents could easily do to help water quality
  - However, participants stressed the need to keep the messaging simple so that people would take the time to read and understand it
- Many also thought it was important to get the word out broadly, and by using many different communication channels so as to reach the most number of people

Preferred Communication Channels

Participants had a wide variety of preferences for receiving communications

- Many participants expressed a desire to receive more information about water quality with their water bill
  - This could include not only simple information about the quality of their water, but also clear steps they could take to help preserve and improve water quality
- Social media, TV advertisements, radio advertisements and billboards were the most preferred communication channels, but preferences were widely varied by participant
  - Social media, in particular, was mentioned as becoming a more popular way of obtaining news and information, as was also supported in the 2014 survey
- Above all, participants recommended getting the word out broadly, so that residents would see water quality messages wherever they went as they felt that repetition was key to remembering them among the flurry of advertisements they were exposed to every day



Appendix

Methodology

- Recruiting Method
  - Recruiting was done via telephone, managed by Corona Insights working with one of its partners
- Screening criteria
  - Participants were recruited by each of the five regions, with a mix of ages and genders
- Incentives offered
  - $100 incentive was offered to each participant
- Locations
  - Locations selected for the focus groups were selected to line up with the five regions explored in the 2014 survey

Focus Group Sites, Dates, & Participants

A total of 129 Colorado residents participated in the focus groups. Participation by region is shown below.

Region	Date and Times	Location	Number of Participants*
Front Range	Wednesday, September 9, 2015 5:30-7:30pm & 7:45-9:45pm	Courtyard by Marriot, Longmont, Colorado	19
Front Range	Thursday, September 10, 2015 5:30-7:30pm & 7:45-9:45pm	Corona Insights Office, Denver, Colorado	18
Front Range	Thursday, September 24, 2015 5:30-7:30pm & 7:45-9:45pm	Hyatt Place, Colorado Springs, Colorado	19
Western Slope	Tuesday, September 15, 2015 5:30-7:30pm & 7:45-9:45pm	Residence Inn, Grand Junction, Colorado	19
Eastern Mountains	Wednesday, September 16, 2015 5:30-7:30pm & 7:45-9:45pm	Salida Community Center, Salida, Colorado	17
San Luis Valley	Thursday, September 17, 2015 5:30-7:30pm & 7:45-9:45pm	Hampton Inn, Alamosa, Colorado	21
Eastern Plains	Wednesday, September 23, 2015 5:30-7:30pm & 7:45-9:45pm	Limon Community Building, Limon, Colorado	16

** Each location included two focus groups. Total number shown is for all groups at that location.*

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Participant Profiles

Location	Total Number of Participants	Gender	Age
Front Range: Longmont	19	M (8) F (11)	18-24 (0) 25-34 (4) 35-44 (5) 45-54 (3) 55+ (7)
Front Range: Denver	18	M (10) F (8)	18-24 (2) 25-34 (3) 35-44 (4) 45-54 (4) 55+ (5)
Front Range: Colorado Springs	19	M (9) F (10)	18-24 (0) 25-34 (2) 35-44 (4) 45-54 (7) 55+ (6)

Participant Profiles (continued…)

Location	Total Number of Participants	Gender	Age
Western Slope: Grand Junction	19	M (10) F (9)	18-24 (2) 25-34 (5) 35-44 (2) 45-54 (6) 55+ (4)
Eastern Mountains: Salida	17	M (6) F (11)	18-24 (1) 25-34 (1) 35-44 (3) 45-54 (4) 55+ (8)

Participant Profiles (continued…)

Location	Total Number of Participants	Gender	Age
San Luis Valley: Alamosa	21	M (13) F (8)	18-24 (1) 25-34 (4) 35-44 (5) 45-54 (5) 55+ (6)
Eastern Plains: Limon	16	M (8) F (8)	18-24 (1) 25-34 (1) 35-44 (1) 45-54 (3) 55+ (9)

About Corona Insights

Our founder named the company Corona because the word means "light." It's the knowledge that surrounds and illuminates an issue; exactly what we do. Our firm's mission is to provide accurate and unbiased information and counsel to decision makers. We provide market research, evaluation, and strategic consulting for organizations both small and large.

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